

Mallard North Update – July 16, 2009 Bi-weekly Meeting
Prepared by RMT, Inc.

EPA Region 5 Records Ctr.



361386

1. Completed Activities

- Constructed frac tank pad and positioned frac tank.
- Completed piping installation, plumbing, etc. and pump installation at two seep areas and EW-L2.
- Began startup/shakedown/fine tuning of pumping rates for the 3 leachate pumps.
- Completed installation of electrical lines, system control installation, tank/pump shutdown floats, started up compressor, tested high frac tank level shutdown.
- ComEd restored electrical service to the site (including repairing an underground short in line between the transformer and the meter.
- Constructed compressor building and installed compressor
- Completed trench/sump near G115 (seeding will be completed prior to the end of the week).
- Continued pumping at EW-L2 via vac-truck
- Pumped approximately 25,000 gallons from G115 trench (utilizing Landmarc's pump and generator).
- Installed and started solar flares at DV-1/UAV-1 (burning with 5' flame), DV-3 (burning fairly consistently), SV-12 burning intermittently.
- Updated cross-sections B-B', E-E', and F-F' with new probe data (see attached).
- Prepared outline of conceptual long-term plan for landfill gas and leachate management and Outline of Landfill Cover Repair Plan for discussion at today's meeting(see attached)
- Updated monitoring program/schedule (see attached Table 1)
MW-1: Spauldine Well has not been pumping all the time

2. Planned Activities

- Perform full landfill gas and liquid level monitoring round the week of July 20th (see Table 1).
96 Probes - Full range of liquid level
- Limited range
- Gas/liquid level monitoring related to leachate/seep pumping and solar flare operation to be performed during week of July 27th and August 3rd (see Table 1).
- Refine monitoring program, if appropriate, based on data collected during weeks of July 20th, July 27th and August 3rd.
- Continue evaluation of LFG and water level data; assess LFG migration pathways
- Add details to conceptual long-term plan for landfill gas/leachate management and repair of low areas, as appropriate, and submit to U.S. EPA

Propose a limited round of sampling 54 Pt. L2

Outline of Long-Term Conceptual Plan for Leachate and Landfill Gas Management¹
Mallard North Landfill
Forest Preserve District of DuPage County

1. Leachate Management

- **Objective:** Prevent release of leachate to West Branch DuPage River (WBDR) by removing leachate from the landfill in those areas where seeps have occurred and resulted in discharges to the WBDR. Reduce leachate generation by repairing low spots in the landfill cover.
- **Leachate Removal Actions**
 - Shorter-term action includes operation of the recently constructed leachate seep management system. This will involve pumping from the trenches on the east and west sides of landfill and from leachate extraction well EW-L2. Liquid will be pumped to the on-site storage tank and liquid will then be transferred periodically to a local waste water treatment plant for treatment. Pumping rates will be adjusted, as appropriate, to maintain an appropriate leachate level in the trenches/well such that seeps to the WBDR are prevented.
 - Longer term action includes evaluating the potential for discharge of leachate to an engineered wetland. An engineered wetland is currently being considered for treatment of leachate from Mallard Lake Landfill. Such an action would eliminate the need to truck leachate to a POTW.
- **Leachate Minimization Actions** (see separate Landfill Cover Repair Plan)
 - Remove pond located along eastern perimeter of landfill and regrade area for positive surface water drainage.
 - Fill and regrade other identified low spots that are present on landfill for positive surface water drainage.

¹ Prepared by RMT, Inc. for presentation at July 16, 2009 meeting between FPD and U.S. EPA

Outline of Long-Term Conceptual Plan for Leachate and Landfill Gas Management²
Mallard North Landfill
Forest Preserve District of DuPage County

2. Landfill Gas Management

■ Landfill Gas Migration and Emissions Control Pilot Study

- no data logger*
- Solar flares installed at the UAV-1/DV-1, DV-3 and SV-12 locations will be operated and monitored to determine their effectiveness. Observations will include flame height, tip integrity and whether the flare is sparking. In addition, landfill gas monitoring will be performed as described below.
 - The site-wide landfill gas monitoring program will continue on a monthly basis through the remainder of 2009. Methane, carbon dioxide, oxygen concentrations and gas pressure will be measured at perimeter and interior probes to assess the potential for off-site landfill gas migration. In addition groundwater levels will be measured to assess whether potential landfill gas migration pathways have opened up due to changes in groundwater levels.

Assess water & Gas levels for next meeting

Another full round of monitoring is scheduled for the week of July 20th. All existing probes will be monitored during this event. During the weeks of July 27th and August 3rd a subset of probes will be monitored (see Table 1). Subsequently, the data will be evaluated and, if appropriate, and alternative monitoring program proposed to U.S. EPA.

■ Contingency Plans

- Additional solar flares might be added to the landfill depending on the results of the pilot study. After approximately 6 months of solar flare operation, the possibility of adding additional solar flares will be assessed and recommendations made to U.S. EPA.
- A limited active landfill gas extraction system could also be implemented to target specific area(s) where the monitoring indicates that off-site landfill gas might be occurring. The District is currently formulating a specific contingency plan for this situation.
- If the monthly monitoring data indicates the potential for off-site landfill gas migration, U.S. EPA will be immediately notified and the contingency plan will be implemented.

→ Evaluate off-gassing at other vents. these should be shut down

→ Evaluate NW corner & SE corner (as pressed)

→ add more flares, vents

² Prepared by RMT, Inc. for presentation at July 16, 2009 meeting between FPD and U.S. EPA

Outline of Landfill Cover Repair Plan¹
Mallard North Landfill
Forest Preserve District of DuPage County

Steve Lester
Miguelas - water
Reputation
Partners

1. Objective: Evaluate and repair cover by eliminating low spots to reduce potential for infiltration of precipitation and generation of leachate.
2. Proposed data collection and preparation activities
 - Update site map to show April 2009 topography and one-foot contour interval (completed)
 - Prepare landfill cover thickness map using existing data (underway, preliminary draft will be presented for discussion at meeting) *use drawings 95-96 ENCL*
 - Prepare map showing low areas to be repaired and showing depths/volume of fill and approximate final cover elevation (underway). *3.5 Ft. - 17 feet*
 - Discuss permitting issues with County of DuPage and prepare stormwater management plan, as appropriate. *define No Permit*
Good on Pond + Low Areas
 - Evaluate options for disposition of eastern pond water (pump to frac tank and dispose at POTW or sample and release under controlled conditions to WBDR, if appropriate). If release to the WBDR is considered, the pond water will be sampled and analyzed.
 - Walk site and record locations of low areas (completed) *✓*
 - Review and prioritize low areas for repair (underway)
 - Estimate volume of soil needed (underway) *what type of fill.*
 - Identify sources of soil (underway) *→ DuPage Forest Dist 2*
 - Identify earthwork contractor, obtain bid and execute contract (underway)
 - Perform JULIE utility locate

3. Anticipated cover repair activities

- Mow areas to be repaired to obtain clear view of area to be repaired
- Drain eastern pond *✓*
- Fill and grade areas for positive drainage. Final grades will allow for future settlement
- Seed and mulch disturbed areas.

Leave Trees in Place
maintainance cut out dead trees
kill exotic weeds as caps

¹ Prepared by RMT, Inc. for presentation at July 16, 2009 meeting between FPD and U.S. EPA

Change entrance road *reconfigure bridge work*

Table 1
Upcoming Gas and Liquid Level Monitoring Program
Mallard North Landfill, Hanover Park, Illinois

Complete Monitoring Round (Week of July 20th)	GP 1	GP 4A	GP 9A	GP 12	GP 16A	GP 19	GP 23A	GP 26A	GP 36A	UAV 1
	GP 33A	GP 4B	GP 9B	P 7A	GP 16B	GP 20	GP 23B	GP 26B	GP 36B	DV 1
	GP 33B	GP 4C	P 4C	P 7B	GP 16C	GP 21A	GP 24A	GP 27A	GP 32A	DV 8
	G 116	GP 5	GP 10A	GP 13	GP 29A	GP 21B	GP 24B	GP 27B	GP 32B	UAV 4
	GP 2A	P 1A	GP 10B	GP 14	GP 29B	GP 22A	GP 25A	GP 35A	GP 37A	DV 12
	GP 2B	GP 6	GP 10C	G 109	G110	GP 22B	GP 25B	GP 35B	GP 37B	DV 13
	GP 34A	GP 7A	P 5A	GP 15A	GP 17	GP 30A	GP 31A	G 120S	G 115	SV 12
	GP 34B	GP 7B	GP 11A	GP 15B	GP 18	GP 30B	GP 31B	G 120D	EWL 10	DV 3
	GP 3	GP 8A	GP 11B	GP 28A		MW 204 East	G 112R	G 113	EWL 11	DV 6
		GP 8B	P 6C	GP 28B		MW 204 West		G 121		
		P 3A		GP 28C						
Limited Monitoring Round ⁽¹⁾ (Week of July 27th and Aug. 3)	GP 1	GP-8A	GP 29A	GP 30A	GP 31A	UAV 1				
	GP 33A	G109	GP 29B	GP 30B	GP 31B	DV 1				
	GP 33B	GP 15A	G110	MW 204 East	GP 26A	DV 3				
	G 116	GP 15B	GP 17	MW 204 West	GP 26B	SV-12				
	GP 2A	GP 28A	GP 18	GP 23A	G 115 (WL only)					
	GP 2B	GP 28B	GP 19	GP 23B	GP 32A					
	GP 34A	GP 28C	GP 20	GP 24A	GP 32B					
	GP 34B	GP 16A	GP 21A	GP 24B	GP 37A					
	GP 3	GP 16B	GP 21B	GP 25A	GP 37B					
	GP-4A	GP 16C	GP 22A	GP 25B						
			GP 22B							

⁽¹⁾ The limited monitoring round program will be adjusted based on the results of the July 27th and August 3 monitoring rounds.